We Claim:

1. A particulate complex comprising a nucleic acid and a biodegradable cationized polyhydroxylated molecule, wherein said molecule has a charge up to approximately 1.0 meq/g.

2. A complex according to claim 1, wherein the nucleic acid is double or single stranded DNA or RNA, or a mixture thereof.

3. A complex according to claim 1, wherein the nucleic acid is a natural or chemically modified oligonucleotide or a derivative thereof.

4. A complex according to claim 1, wherein the nucleic acid is a natural or chemically modified polynucleotide or a derivative thereof.

5. A complex according to claim 1, wherein the biodegradable cationized polyhydroxylated molecule has a charge between approximately 0.1 and approximately 0.85 meq/g.

6. A complex according to claim 1, wherein the polyhydroxylated molecule is a saccharide comprising a cationic moiety.

7. A complex according to claim 6, wherein the saccharide is a polysaccharide

8. A complex according to claim 6, wherein the saccharide is an oligosaccharide.

9. A complex according to claim 6, wherein the saccharide is a monosaccharide.

10. A complex according to claim 6, wherein the cationic moiety comprises a secondary or tertiary amino group; quaternary ammonium ion; or a combination thereof.

11. A complex according to claim 10, wherein the quaternary ammonium ion is glycidyl trimethylammonium.

12. A complex according to claim 1, wherein the cationized polyhydroxylated molecule has a molecular weight of between approximately 0.18 kDa and approximately 1000 kDa.

13. A complex according to claim 12, wherein the cationized polyhydroxylated molecule has a molecular weight of between about 0.5kDa and 500kDa.

14. A complex according to claim 1, wherein the complex is of size between approximately 100 nm to approximately 10 μm.

15. A complex according to claim 1, wherein the complex has a charge ratio of cationized polyhydroxylated molecule to nucleic acid between approximately 0.3 to 1, and wherein the complex is globally negative.

16. A complex according to claim 1, wherein the complex has a charge ratio of cationized polyhydroxylated molecule to nucleic acid between 1 to approximately 20, and wherein the complex is globally positive.

17. A solution comprising a complex according to claim 16, wherein the solution further comprises excess cationized polyhydroxylated molecule that is not complexed to the nucleic acid.

18. A method for protecting a nucleic acid molecule when transfecting said molecule into a cell, said method comprising complexing the nucleic acid with a cationized polyhydroxylated molecule to form a particulate complex according to claim 1.

19. A method according to claim 18, wherein the complex has a charge ratio of cationized polyhydroxylated molecule to nucleic acid between approximately 0.3 and approximately 20.

20. A method for transfecting a nucleic acid molecule into a cell ex vivo, said method comprising complexing the nucleic acid with a cationized polyhydroxylated molecule to form a particulate complex according to claim 1, and transfecting the cell with the complex.

21. A method according to claim 20, wherein the complex has a charge ratio of cationized polyhydroxylated molecule to nucleic acid between approximately 0.3 and approximately 20.

22. A method for administering a nucleic acid molecule to a mammal, said method comprising complexing the nucleic acid with a cationized polyhydroxylated molecule to form a particulate complex according to claim 1, and administering the complex to the mammal.

23. A method according to claim 22, wherein the complex has a charge ratio of cationized polyhydroxylated molecule to nucleic acid between approximately 0.3 and approximately 20.

24. A method according to claim 22 wherein the administration of the complex is intramuscular.

25. A method according to claim 22, wherein the nucleic acid encodes an immunogenic antigen.

26. A method according to claim 22, wherein the nucleic acid encodes a therapeutic protein.

27. A pharmaceutical composition comprising the complex of claim 1.

28. A pharmaceutical composition according to claim 27 further comprising a transfection enhancer.

29. A pharmaceutical composition according to claim 28, wherein said transfection enhancer is selcted from the group consisting of lipids, detergents, enzymes, peptides, and enzyme inhibitors.

30. A pharmaceutical composition according to claim 28, wherein said transfection enhancer comprises free cationized polyhydroxylated molecules not complexed to the nucleic acid.